1.0 Block Agriculture profile				
1.1	**Agro-Climatic/Ecological Zone**			
	Agro Ecological Sub Region (ICAR)	Purvanchal (Eastern Range)(17.2)		
	Agro Climatic Zone (NARP)	Temoerate sub-alpine,sub-tropical Hill zone, Mid-tropical Hill zone		
	Geographic coordinates of Block headquarters	Latitude	Longitude	Altitude
		23°12'6.5196"N	93°5'8.9210"E	1464 mtr
	Name and address of the concerned ZRS/ ZARS/ RARS/ RRS/ RRTTS			
	Mention the KVK responsible for the block	KRISHI VIGYAN KENDRA, SERCHHIP DISTRICT, N.VANLAIPHAI- 796184, MIZORAM		
	Name and address of the nearest Agromet Field Unit (AMFU, IMD) for agro-advisories in the Zone	Small weather station installed at KVK Serchhip Distruct Complex, N. Vanlaiphai under NICRA Project/AMFU ICAR RC FOR NEH REGION MIZORAM CENTRE.KOLASIB .		

1.2	**Rainfall**	**Normal RF(mm)**	**Normal Rainy days (number)**	**Normal Onset (specify week and month)**	**Normal Cessation (specify week and month)**
	SW monsoon (June-Sep)	603.19	56.80	1st week of June	Last week of September
	NE Monsoon(Oct-Dec)	93.01	9	1st week of October	Last week of December
	Winter (Jan- March)	37.06	3.80	1st week of January	2nd week of February
	Summer (Apr-May)	111.40	11.80	1st week of March	4th week of May
	Annual	844.99			

Average of five years (2019-2023)

1.3	**Land use pattern of the Block** (latest statistics)	Geographical area	Cultivable area	Forest area	Land under non-agricultural use	Permanent pastures	Cultivable wasteland	Land under Misc. tree crops and groves	Barren and uncultivable land	Current fallows	Other fallows
	Area ('000 ha)	71.08	9.2485	45.6175	0.24	0.175	0.24	1.0945	0.329	3.4105	NA

1. 4	**Major Soils (common names like red sandy loam deep soils (etc.,)***	**Area ('000 ha)**	**Percent (%) of total**
	1. Sandy loam	-	-
	2. Loam	-	-
	3. Black Tarai soil	-	-
	4.Clay loam	-	-
	5. Silty Clay loam	-	-

1.5	**Agricultural land use**	Area ('000 ha)	Cropping intensity %
	Net sown area	9.2485	49.6875
	Area sown more than once	0.095	
	Gross cropped area	9.3435	

1.6	**Irrigation**	Area ('000 ha)		
	Net irrigated area	1.027		
	Gross irrigated area	1.027		
	Rainfed area	8.2215		
	Sources of Irrigation	Number	Area ('000 ha)	Percentage of total irrigated area
	Canals	-	-	-
	Tanks	-	-	-
	Open wells	-	-	-
	Bore wells	-	-	-
	Lift irrigation schemes	-	-	-
	Micro-irrigation	-	-	-
	Other sources (please specify)	-	-	
	Total Irrigated Area	-	-	-
	Pump sets	16		
	No. of Tractors	14		

	Groundwater availability and use* (Data source: State/Central Ground water Department /Board) Over exploited/ Critical/ Semi- critical/ Safe			
*over-exploited: groundwater utilization > 100%; critical: 90-100%; semi-critical: 70-90%; safe: <70%				

1.7 Area under major field crops & horticulture (as per latest figures) (latest 2 years)

Year 1

	S.No.	**Major field crops cultivated**	**Area ('000 ha)**							
			Kharif			***Rabi***				
			Irrigated	**Rainfed**	**Total**	**Irrigated**	**Rainfed**	**Total**	**Summer**	**Grand total**
	1	Paddy	-	1.02	1.02	-	-	-	-	1.02
	2	Maize	-	0.76	0.76	-	-	-	-	0.76
	3	Soybean	-	0.13	0.13	-	-	-	-	0.13
	4	Rapeseed mustard	-	-	-	-	0.02	0.02	-	0.02
	5	Field pea	-	-	-	-	0.03	0.03	-	0.03
	6	Sesamum	-	0.04	0.04	-	-	-	-	0.04

Year 2

	S.No.	**Major field crops cultivated**	**Area ('000 ha)**							
			Kharif			***Rabi***				
			Irrigated	**Rainfed**	**Total**	**Irrigated**	**Rainfed**	**Total**	**Summer**	**Grand total**
	1	Arhar	-	0.03	0.03	-	-	-	-	0.03
	2	Cowpea	-	0.17	0.17	-	-	-	-	0.17
	3	Frenchbean	-	0.01	0.01	-	0.03	0.03	-	0.03
	4	Sugarcane	-	0.22	0.22	-	-	-	-	0.22
	5	Rice bean	-	0.04	0.04	-	-	-	-	0.04
	6	Bittergourd	-	0.30	0.30	-	-	-	-	0.30

Horticulture crops: Latest one year data

	S.No.	**Horticulture crops -**	**Area ('000 ha)**

		Fruits	Total	Irrigated	Rainfed
	1	Banana	2.09	-	2.09
	2	Khasi Mandarin	1.3645	-	1.3645
	3	Lemon	0.55	-	0.55
		Horticulture crops - Vegetables			
	1	Cabbage	0.54	0.54	0.54
	2	Tomato	0.03	0.03	0.03
		Medicinal and Aromatic crops			
	1	Ginger	1.5656	-	1.5656
		Plantation crops			
	1	Arecanut	0.21	-	0.21
	2	Jatropha	0.0125	-	0.0125
		Other plantation crops (Tum)	0.02	-	0.02
		Fodder crops	Total	Irrigated	Rainfed
	1	NA	NA	NA	NA
	2	NA	NA	NA	NA
	3	NA	NA	NA	NA
		Total fodder crop area	NA	NA	NA
		Grazing land	**NA**	**NA**	**NA**
		Sericulture, if any, etc	**NA**	**NA**	**NA**

Livestock data (from latest census)

1.8	**Livestock**	**Male ('000)**	**Female ('000)**	**Total ('000)**
	Non descriptive Cattle (local low yielding)	235	575	810
	Improved cattle	83	195	278
	Crossbred cattle	83	195	278
	Non descriptive Buffaloes (local low yielding)	114	190	304
	Descript Buffaloes	-	-	-
	Goat	78	150	228
	Sheep Indi + Exotic	-	-	-
	Others (Camel, Pig, Yak etc.)	19990	17222	37212
	Commercial dairy farms (Number)			
1.9	**Poultry**	**No. of farms**	**Total No. of birds ('000)**	

	Commercial	-	-
	Backyard	1.97	26.32

1.10 **Fisheries** (Data source: Chief Planning Officer)

A. Capture

i) Marine (Data Source: Fisheries Department)	**No. of fishermen**	**Boats**		**Nets**		**Storage facilities (Ice plants etc.)**
		Mechanized	Non-mechanized	Mechanized (Trawl nets, Gill nets)	Non-mechanized (Shore Seines, Stake & trap nets)	
	-	**-**	**-**	**-**	**-**	**-**

ii) Inland (Data Source: Fisheries Department)	**No. Farmer owned ponds**	**No. of Reservoirs**	**No. of village tanks**
	290	**-**	**0**

B. Culture

	Water Spread Area (ha)	**Yield (t/ha)**	**Production ('000 tons)**
i) **Brackish water** (Data Source: MPEDA/ Fisheries Department)	-	-	--
ii) **Fresh water** (Data Source: Fisheries Department)	101	na	na
Others	-	-	-

1.11 Production and Productivity of major crops (latest 2 years)

Year 1

1.11	Name of crop	**Kharif**		**Rabi**		**Summer**		**Total**		**Crop residue as fodder** ('000 tons)
		Production ('000 t)	Productivity (kg/ha)	Production ('000 t)	Productivity (kg/ha)	Production ('000 t)	Productivity (kg/ha)	Production ('000 t)	Productivity (kg/ha)	
Major Field crops (Crops to be identified based on total acreage)										
	Paddy	2.31	1037	-	-	-	-	2.31	1037	-
	Maize	0.56	374.67	-	-	-	-	0.56	374.67	-

	Sesame	0.01	153.40	-	-	-	-	0.01	153.40	-
	Cowpea	0.08	426.82	-	-	-	-	0.08	426.82	-
	Frenchbean	0.051	72.85	0.051	72.85	-	-	0.051	72.85	
	Crop 6									

Year 2

1.11	Name of crop	**Kharif**		**Rabi**		**Summer**		**Total**		**Crop residue as fodder** ('000 tons)
		Production ('000 t)	Productivity (kg/ha)	Production ('000 t)	Productivity (kg/ha)	Production ('000 t)	Productivity (kg/ha)	Production ('000 t)	Productivity (kg/ha)	
Major Field crops (Crops to be identified based on total acreage)										
	Paddy	2.31	1037	-	-	-	-	2.31	1037	-
	Maize	0.56	374.67	-	-	-	-	0.56	374.67	-
	Sesame	0.01	153.40	-	-	-	-	0.01	153.40	-
	Cowpea	0.08	426.82	-	-	-	-	0.08	426.82	
	Frenchbean	0.051	72.85	0.051	72.85	-	-	0.051	72.85	
	Crop 6									

Major Horticultural crops (Crops to be identified based on total acreage)										
	Banana	27.7	6064.3125							
	Khasi Mandarin	14.7	2694.0725							
	Ginger	4.5	2800.55							

Additional rows may be added if more crops are existing

1.12	**Sowing window for 5 major field crops** (start and end of normal sowing period)	Rice	Maize	Cowpea	Frenchbean	Bird's eye chili
	Kharif- Rainfed	4th week of May-1st week of July	4th week of May- 1st week of July	2nd week of April-2nd week of May	2nd week of March -1st week of June	
	Kharif-Irrigated	1st week of March -1st week	1st week of March -1st	1st week of March-	1st week of March-1st	

		of July	week of July	1st week of July	week of July	
	Rabi- Rainfed	NA	1st week of September to 2nd week of October	1st week of September to 2nd week of November		
	Rabi-Irrigated	NA				

1.13	**What is the major contingency the Block is prone to?** (Tick mark), if available.	**Regular**	**Occasional**	**None**
	Drought		✓	
	Flood		✓	
	Cyclone		✓	
	Hail storm		✓	
	Heat wave			✓
	Cold wave		✓	
	Frost		✓	
	Sea water intrusion			✓
	Pests and disease outbreak (specify)Pyrilla, Stem borer, Sheath blight, Rust, Powdery mildew etc		✓	
	Others (specify) Fog		✓	

Regular: 6 years out of 10 years

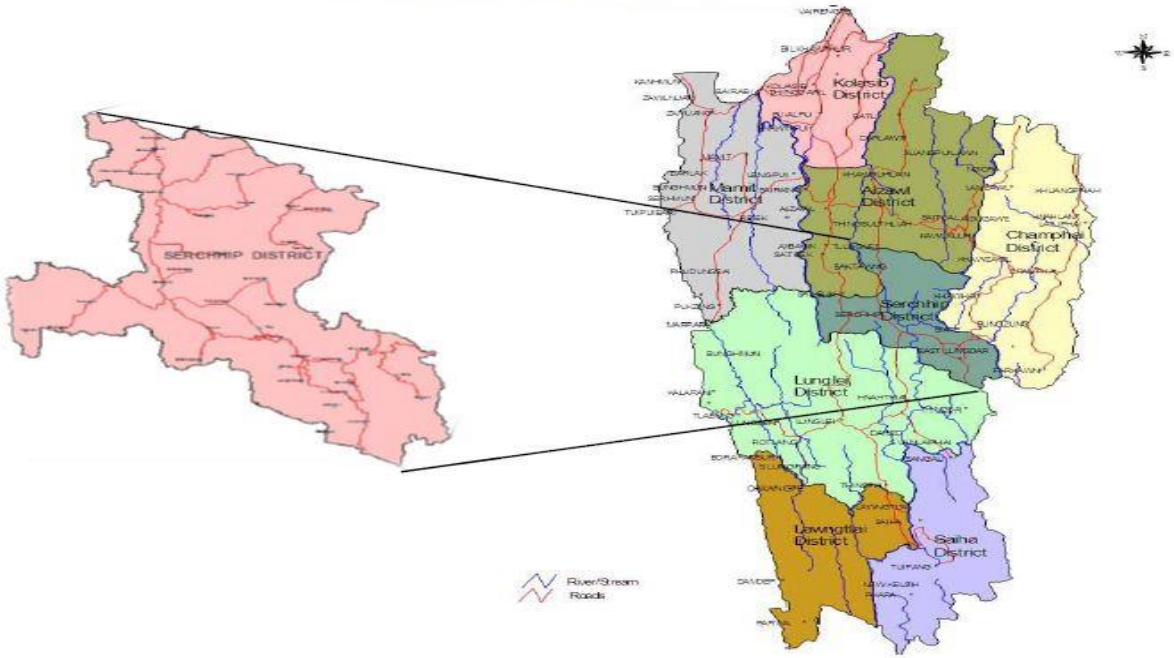
1.14	**Include Digital maps of the Block for**	Location map of Block within district as Annexure 1	
		Aannual rainfall graph (for last 20-30 years)as Annexure 2	
		Soil map as Annexure 3	

Annexure I- Location map

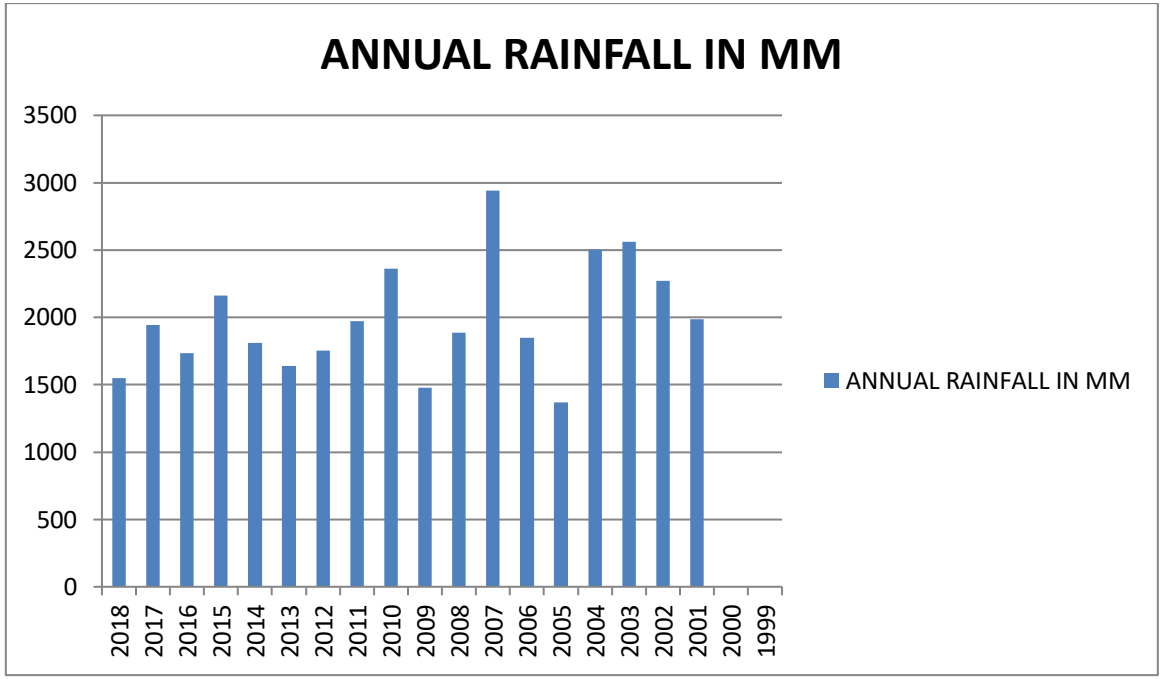
Annexure II- Annual rainfall graph

Annexure III- Soil map

Annexure I: Location Map of Serchhip District, Mizoram



Location map of the block


ANNUAL RAINFALL IN MM
3500
3000
2500
2000
1500
1000
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2018
2017
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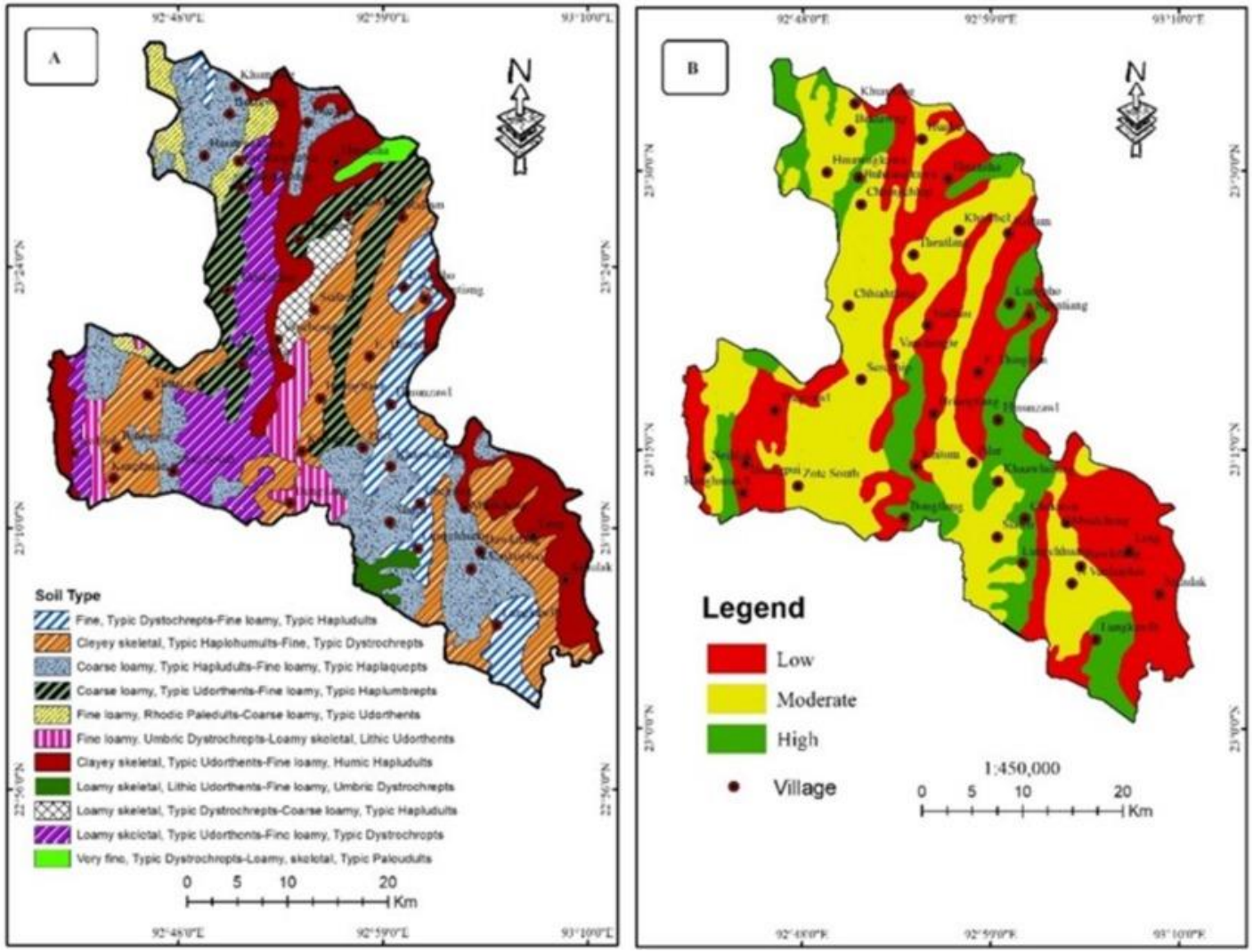
ANNUAL RAINFALL IN MM


A
N
Soil Type
Fine, Typic Dystochrepts-Fine loamy, Typic Hapludults
Clayey skeletal, Typic Haplohumults-Fine, Typic Dystrochrepts
Coarse loamy, Typic Hapludults-Fine loamy, Typic Haplaquepts
Coarse loamy, Typic Udorthents-Fine loamy, Typic Haplumbrepts
Fine loamy, Rhodic Paleduls-Coarse loamy, Typic Udorthents
Fine loamy, Umbric Dystrochrepts-Loamy skeletal, Lithic Udorthents
Clayey skeletal, Typic Udorthents-Fine loamy, Humic Hapludults
Loamy skeletal, Lithic Udorthents-Fine loamy, Umbric Dystrochrepts
Loamy skeletal, Typic Dystrochrepts-Coarse loamy, Typic Hapludults
Loamy skeletal, Typic Udorthonts-Fine loamy, Typic Dystrochrepts
Very fine, Typic Dystrochrepts-Loamy, skeletal, Typic Paleudults
0 5 10 20
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2.0 Strategies for weather related contingencies

2.1 Drought

2.1.1 Rainfed situation

Condition			**Suggested Contingency measures**		
Early season drought (delayed onset)	**Major Farming situation**	**Normal Crop / Cropping system**	**Change in crop / cropping system including variety**	**Agronomic measures**	**Remarks on Implementation**
Delay by 2 weeks **4th Week of June**	1)Rainfed Upland/Jhum with rich alluvial soil	**Paddy + Ginger + Bird's eye chilli** **Ginger (Sole crop)** **Bird's eye chilli (sole crops)** **Maize (sole crops)** **Horticulture crops: Cabbage, frenchbean,cowpea,brinjal.**	No change No change No change No change No change	Logwood bunding on sloppy land,sowing can be delayed with anticipation of rain. Ridge & Furrow/Raised bed sowing in plain areas and in terraces.Dibbling instead of broadcasting	• Supply of seeds through State Dept. ATMAs & KVKs.
	2)Terrace / midland with no irrigation facility with rich alluvial soil	**1.Rice** **2. Maize** **3.Soybean**	Changkawi,Lalrawna. Manipur buh,RCM7,CAU R2, Bhalum3,4 RCM 75,HQPM 5, Charhang,Mimbanvar RCS1-1,RCS1-9,RCS1-10,JS 33 No change	Logwood bunding on sloppy land,sowing can be delayed with anticipation of rain. Ridge & Furrow/Raised bed sowing in plain areas and in terraces.Dibbling instead of broadcasting Mulching with organic	Promote optimum water supply system, water harvesting structure.

	3)Rainfed Lowland	**Horticulture crops: Passion fruit, pineapple, banana, M. Orange** **Rice**	Paddy var. RCM-10,RCM-11,Local,CAU R1	materials, earthing up, half moon terraces, bunding, check dams, promote WHS, life saving irrigation,application of lime/FYM Deep ploughing (3times), application of fertilizers & manures, late sowing	
Condition			**Suggested Contingency measures**		
Early season drought (delayed onset)	**Major Farming situation**	**Normal Crop/cropping system**			
Delay by 4 weeks **2nd Week of July**	1)Upland /Jhum Rich Alluvial soil	Rice based Rice + Maize+ Cucumber	Rice: local short duration var.Idaw,tai,Buhsakei, CAU R1 Maize:Local sticky maize, HQPM, RCM-75 Cucumber: var Local, Pusa Sanyog, Pant Khiraa – 1 Local vegs	Late sowing, sowing by dibbling. Interculture operations, mulching, earthing up, Log/bamboo bunding to conserve run-off water & top soil. Spraying of 0.2% urea	

				,spraying of 0.2% potash	
		Ginger	Local var. Thingpui, Thinglaidum & Thingria	Mulching with organic materials, earthing up, spraying of 0.2%urea,spraying of 0.2% potash	
		Bird's eye chilli	**Local variety**	Mulching, spraying of 0.2% urea, spraying of 0.2% potash	
		Horticulture crops: Cabbage,frenchbean, cowpea, brinjal	**1. Cabbage var. Ryozeki, Indam 1299, Improved Bahar, Rocky** **2. Frenchbean var. Local, Arka Anoop, Arka Komal, Arka Sharat** **3. Cowpea var. Local, Arka Garima, Pusa Kumal, PKM-1** **4. Brinjal var. Arka Kesav, Arka Neidhi, Arka Anand, Pusa Kranti**	Logwood bunding on sloppy land, sowing can be delayed up to May wuth anticipation of rain. Ridge & Furrow / Raised bed sowing in plain areas and in terraces.Dibbling instead of broadcasting.	
	2)Terraces / mid land with no irrigation facility		**Early varieties as above**	Late sowing, application of	

		Rice		slaked lime & organic manure. Mulching with available bio-mass.Frequent inter-culture operations, spraying of 0.2% of urea,spraying of 0.2% potash	
		Perennial crops: Pineapple, Banana, M. orange	**No change**	Mulching, application of organic manure, late sowing	
	3)Lowland with irrigation facility	Rice	**Short duration varieties by system of rice intensification**	Deep ploughing, application of organic manure, late sowing	
	4)Low land withoit irrigation facility	Rice	**Short duration varieties by system of rice intensification**	Deep ploughing, application of organic manure, late sowing	
		Lowland paddy	**Nursery preparation**	Dry and wet bed method.	
Condition			**Suggested Contingency measures**		

Early season drought	Major Farming situation	Normal Crop/cropping system	Change in crop/cropping system	Agronomic measures	Remarks on Implementation
Delay by 6 weeks 4th week of July	1)Upland/Jhum Rich Alluvial Soil	NA	NA	NA	
	2)Terrace/midland with no irrigation facility	NA	NA	NA	
	3)Lowland with irrigation facility	NA	NA	NA	
	4)Lowland without irrigation facility	NA	NA	NA	
Condition			**Suggested Contingency measures**		
Early season drought	**Major Farming situation**		**Change in crop/cropping system**	**Agronomic measures**	**Remarks on Implementation**
Delay by 8 weeks 2nd Week of August	1)Jhum /upland with rich alluvial soil	NA	**NA**	NA	
	2)Terrace/midland with red alluvial soil	NA	**NA**	NA	
	3)Lowland with no irrigation facility	NA	**NA**	NA	
	4)Lowland with irrigation facility Clayey loam	NA	**NA**	NA	

Condition			**Suggested Contingency measures**		
Early season drought **(Normal onset)**	**Major Farming situation**	**Normal Crop / Cropping system**	**Crop management**	**Soil nutrient & moisture conservation measures**	**Remarks on Implementation**
Normal onset followed by 15-20 days dry spell after sowing leading to poor germination/crop stand etc.	Irrigated up land	NA	NA	NA	NA
	Irrigated low land	Rice	Weeding Gap filling Plant protection measures	SRI	
	Un irrigated up land	1.Rice based 2.Ginger 3.Bird's eye chilli	Weeding Gap filling Plant protection measures	Woodlog/bamboo bunding,mulching.eathing up,optimum irrigation	To create awareness on moisture management technique
	Un irrigated low land	Rice	Weeding Gap filling Plant protection measures	SRI	
Condition			**Suggested Contingency measures**		
Mid season drought (long dry spell, consecutive 2 weeks rainless (>2.5 mm) period)	**Major Farming situation**	**Normal Crop/cropping system**	**Crop management**	**Soil nutrient & moisture conservation measures**	**Remarks on Implementation**
At vegetative	Irrigated up land	NA	NA	NA	NA

stage	Irrigated low land	Rice	Need based PP measures	Wetting and Drying	
	Un irrigated up land	1.Rice base 2.Ginger 3.Birds eye chilli 4.Rice Fruit crops-Pineapple, Banana,M.orange	Weeding, mulching with locally available organic materials Plant protection measures,thinning Dripping and wetting method	Efficient use of store water for life saving irrigation.Mulching with locally available materials,earthing up,mulching with biomass earthing up	Creating awareness on sol conservation measures
	Un irrigated low land	Rice	Need based PP measures	Wetting and Drying	

Condition			**Suggested Contingency measures**		
Mid season drought (long dry spell)	**Major Farming situation**	**Normal Crop/cropping system**	**Crop management**	**Soil nutrient & moisture conservation measures**	**Remarks on Implementation**
At flowering/ fruiting stage	Irrigated up land	NA	NA	NA	NA
	Irrigated low land	1. Rice based 2. 2.Ginger 3. Birds eye chilli 4. Rice Fruit crops-Pineapple, Banana,M.orange	Tolerant/resistant varieties Plant protection measures Need based PP measures,weeding,mulching Dripping and wetting PP Measures	Earthing up,mulching with locally available materials/biomass.earthing up. Wetting and Drying	
	Un irrigated up land	Rice		Wetting and drying	

	Un irrigated low land	**Rice**			

Condition			**Suggested Contingency measures**		
	Major Farming situation	**Normal Crop/cropping system**	**Crop management**	**Rabi crop planning**	**Remarks on Implementation**
Terminal drought (Early withdrawal of monsoon)	Irrigated up land	Na	na	Na	na
	Irrigated lowland	Rice	Need based PP measures	Na	
	Un irrigated up land	1.Rice based 2.Ginger 3.Birds eye chilli 4.Rice Fruit crops- Pineapple,banana,M.Orange	Plant protection measures,weeding,dripping and wetting method	Frenchbean Soybean,groundnut,maize	
	Un irrigated low land	Rice	PP measures	Cole crops, frenchbean,soybean,onion,garlic,fieldpea,brinjal,tomato,okra	

1.1.2. Drought Irrigated situation

Condition			**Suggested Contingency measures**		
	Major Farming situation	**Normal Crop/ cropping system**	**Change in crop/cropping system**	**Agronomic measur**	**Remarks on Implementation**
Delayed release of water in canals due to low rainfall	Up land sandy loam soils			•	•
	Low land clay loam soils			•	•

Condition			Suggested Contingency measures		
	Major Farming situation	**Normal Crop/ cropping system**	**Change in crop/cropping system**	**Agronomic measur**	**Remarks on Implementation**

Condition			Suggested Contingency measures		
	Major Farming situation	**Normal Crop/cropping system**	**Change in crop/cropping system**	**Agronomic measures**	**Remarks on Implementation**
Limited release of water in canals due to low rainfall	Up land sandy loam soils	NA	NA	• NA	NA
	Low land clay loam soils	NA	NA	• NA	• NA

Condition			Suggested Contingency measures		
	Major Farming situation	**Normal Crop/cropping system**	**Change in crop/cropping system**	**Agronomic measures**	**Remarks on Implementation**
Non release of water in canals under delayed onset of monsoon in catchment	Up land tube well irrigated canal sandy loam soil	NA	NA	• NA	• NA
	Low land tube well irrigated canal clay loam soil	NA	NA	• NA	• NA

Condition			Suggested Contingency measures		
	Major Farming situation	**Normal Crop/cropping system**	**Change in crop/cropping system**	**Agronomic measures**	**Remarks on Implementation**
Lack of inflows into tanks due to insufficient /delayed onset of monsoon	NA	**NA**	NA	NA	NA

Condition			Suggested Contingency measures

	Major Farming situation	Normal Crop/cropping system	Change in crop/cropping system	Agronomic measures	Remarks on Implementation
Insufficient groundwater recharge due to low rainfall	Up land tube well irrigated canal sandy loam soil	NA	NA	• NA	NA
	Low land tube well irrigated canal clay loam soil	NA	NA	NA	NA

2.2 Unusual rains (untimely, unseasonal etc) (for both rainfed and irrigated situations)

Condition	Suggested contingency measure			
Continuous high rainfall in a short span leading to water logging	**Vegetative stage**	**Flowering stage**	**Crop maturity stage**	**Post harvest**
Paddy	Improve drainage system.Stone terracing to help in conserving soil in hill slope, strip cropping	Drain out excess water. Application of hormones/nutrient sprays to prevent flower drop or promote quick flowering/fruiting	Drain out excess water.Lodge panicle may be harvested at physiological maturity state	Dry and safe well ventilated storage place.
Maize	Ridge planting,proper drainage. Improve drainage system. Stone terracing to help in conderving soil in hill slope. Strip cropping	Proper drainage to avoid water logging. Application of hormones/nutrient sprays to prevent flower drop or promote quick flowering/fruiting	Proper drainage.PP measures	Dry and safe well ventilated storage place.
Horticulture				
Bird's eye chilli	Ridge planting,improve drainage sysyem. Stone terracing to help	Proper drainage to avoid water logging. Application of hormones/nutrient	Proper drainage.PP measures	Sun drying after harvest. Provision for good stotage facilities.

	in conserving soil in hill slope, strip cropping	sprays to prevent flower drop or promote quick flowering/fruiting		
M.Orange	Proper drainage, need based PP measures	Proper drainage, need based PP measures.Application of hormones/nutrient sprays to prevent flower drop or promote quick flowering/fruiting	Proper drainage, need based PP measures	Stored in a dry place.
Ginger	Proper drainage, need based PP measures	Proper drainage, need based PP measures	Proper drainage, need based PP measures	Stored in a dry place.
Heavy rainfall with high speed winds in a short span				
Paddy	Drain out excess water	Drain out excess water	Drain out excess water	Dry and safe storage place
Maize	Ridge planting,proper drainage, provide wind break,support with bamboo	Proper drainage to avoid water logging	Proper drainage,PP measures	Dry and safe storage place
Crop3				
Horticulture				
Bird's eye chilli	Ridge planting,proper drainage,provide wind breaj,support with bamboo	Proper drainage to avoid water logging	Proper drainage,PP measures	Sundrying after harvest. Provision for good storage facilities.S
M.Orange	Proper drainage, need based PP measures, provide wind break,support with bamboo	Proper drainage,need based PP measures	Proper drainage,need based PP measures	Stored in a dry place
Ginger	Proper drainage,need based PP measures	Proper drainage,need based PP measures	Proper drainage,need based PP measures	Stored in a dry place
Outbreak of pests and diseases due to unseasonal rains				
Paddy	Spray tricyclazole	Spray tricyclazole	Malathion spray against Gundhi bug	Proper winnowing and sun

Crop2 Crop3	against blast, Chloropyriphos,Regent against stem borer,Monocrotophos against swarming caterpillar	against blast, Chloropyriphos,Regen t against stem borer,Monocrotophos against swarming caterpillar	at time of grain filling stage/milking stage	drying of grains. Fumigation/disinfection of storage bin/bags including store house.
Horticulture				
Banana M.Orange Ginger 	Need based PP measures	Need based PP measures	Need based PP measures	Need based PP measures

2.3 Floods

Condition	**Suggested contingency measure**			
Transient water logging/ partial inundation	**Seedling / nursery stage**	**Vegetative stage**	**Reproductive stage**	**At harvest**
Crop1	NA	**NA**	**NA**	**NA**
Crop2	NA	NA	NA	NA
Crop3	NA	NA	NA	NA
Horticulture				
Crop1	NA	NA	NA	NA
Crop2	NA	NA	NA	NA
Crop3	NA	NA	NA	NA
Continuous submergence for more than 2 days				
Crop1	NA	**NA**	**NA**	**NA**
Crop2	NA	NA	NA	NA
Crop3	NA	NA	NA	NA

2.4 Extreme events: Heat wave / Cold wave/Frost/ Hailstorm /Cyclone/Fog

Extreme event type	**Suggested contingency measure**

	Seedling / nursery stage	Vegetative stage	Reproductive stage	At harvest
Heat Wave				
Crop1	NA	NA	NA	NA
Crop2	NA	NA	NA	NA
Crop3	NA	NA	NA	NA
Horticulture				
Crop1	NA	NA	NA	NA
Crop2	NA	NA	NA	NA
Crop3	NA	NA	NA	NA
Cold wave				
Crop1	NA	NA	NA	NA
Crop2	NA	NA	NA	NA
Horticulture				
Banana	Spray the canopy with water in the morning	• Spray the canopy with water in the morning	Spray the canopy with water in the morning	Harvested at physiological maturity. Induce ripening under controlled conditions
Crop2	NA	NA	NA	NA
Potato	NA	NA	NA	NA
Frost				
Crop1	NA	NA	NA	NA
Crop2	NA	NA	NA	NA
Horticulture				
Banana	Spray the canopy with water in the morning	Spray the canopy with water in the morning	Spray the canopy with water in the morning	-
Pineapple	Spray the canopy with water in the morning	Spray the canopy with water in the morning	Spray the canopy with water in the morning	-
Crop1	NA	NA	NA	NA
Crop2	NA	NA	NA	NA
Hailstorm				
All the crops				

Rice	Cover the nursery with mat	Prevention of hails by hail suppression techniques, following forecasts ofweather and protecting crops,use heaters,wind machines,sprinkling water etc.	Prevention of hails by hail suppression techniques, following forecasts of weather and protecting crops,use heaters,wind machines,sprinkling water etc.	Following forecasts of weather and protecting crops,spraying salt on harvested paddy or other crop to prevent the germination and sprouting of the harvested produce
Maize	Cover the nursery with mat	Prevention of hails by hail suppression techniques, following forecasts of weather and protecting crops,use heaters,wind machines,sprinkling water etc.	Prevention of hails by hail suppression techniques, following forecasts of weather and protecting crops,use heaters,wind machines,sprinkling water etc.	Following forecasts of weather and protecting crops,spraying salt on harvested paddy or other crop to prevent the germination and sprouting of the harvested produce
Horticulture				
All the Vegetable crops	NA	NA	NA	NA
All the Fruit crops				
Banana	Cover the crops with net	Prevention of hails by hail suppression techniques, following forecasts of weather and protecting crops,use heaters,wind machines,sprinkling water etc.	Prevention of hails by hail suppression techniques, following forecasts of weather and protecting crops,use heaters,wind machines,sprinkling water etc.	Following forecasts of weather and protecting crops,spraying salt on harvested paddy or other crop to prevent the germination and sprouting of the harvested produce
M.orange	Cover the crops with net	Prevention of hails by hail suppression techniques, following forecasts of weather and protecting crops,use	Prevention of hails by hail suppression techniques, following forecasts of weather and protecting crops,use heaters,wind machines,sprinkling water etc.	Following forecasts of weather and protecting crops,spraying salt on harvested paddy or other

		heaters,wind machines,sprinkling water etc.		crop to prevent the germination and sprouting of the harvested produce
Fog				

2.5 Contingent strategies for Livestock, Poultry & Fisheries

2.5.1 Livestock

	Suggested contingency measures		
	Before the event	**During the event**	**After the event**
Drought			
Feed and fodder availability	NA	NA	NA
Drinking water	NA	NA	NA
Health and disease management	NA	NA	NA
Floods			
Feed and fodder availability	Storage of available fodder resources at elevated place. Protection of stored fodder from unusual/heavy rains with polysheet	Collect and utilized locally available feed including kitchen waste	Collect the residual crop (maize,paddy,cowpea leaves etc) & dried for future
Drinking water	Harvest the rain water and collect in tanky	Provide clean and hygienic water	Cleaning tank, restore hydienic environment

Health and disease management	Regular supplementation of Vitamin and minerals Vaccination and deworming should be regular Feedig of balanced diet,restriction of the entry to farm premises, isolation of disease animals	Proper disposal of manure Regular cleaning of shed Disinfection of shed Restricting movement of livestock in any case of epidemics. Rescue of sick and injured animals and their treatments.	Disinfection and sanitation of all the shed Movement other than the attendant into the farm premises should be restricted Proper disposal of dead animals.
Cyclone **N.A**	NA	NA	NA
Heat wave and cold wave			
Shelter/environment management	Provision of proper shelter	Proper housing,cover the surrounding with covers	Clean the surrounding environment
Health and disease management	Regular supplementation of Vitamin and minerals Vaccination and deworming should be regular Feedig of balanced diet,restriction of the entry to farm premises, isolation of disease animals	Proper disposal of manure Regular cleaning of shed Disinfection of shed Restricting movement of livestock in any case of epidemics. Rescue of sick and injured animals and their treatments	Disinfection and sanitation of all the shed Movement other than the attendant into the farm premises should be restricted Proper disposal of dead animals.

2.5.2 Poultry

	Suggested contingency measures			**Convergence/linkages with ongoing programs, if any**
	Before the event[a]	**During the event**	**After the event**	
Drought				
Shortage of feed ingredients	NA	NA	NA	NA

Drinking water	NA	NA	NA	NA
Health and disease management	NA	NA	NA	NA
Floods				
Shortage of feed ingredients	Storage of availablefeed,protection of stored feed from rodents	Collect and utilized locally available feed including kitchen waste	Collect the residual, routine management practices	
Drinking water	Harvest the rain water and collect in tanky	Provide clean and hygienic water	Cleaning tank, restore hydienic environment	
Health and disease management	Regular supplementation of Vitamin and minerals Vaccination and deworming should be regular Feedig of balanced diet,restriction of the entry to farm premises, isolation of disease animals	Proper disposal of manure Regular cleaning of shed Disinfection of shed Restricting movement of livestock in any case of epidemics. Rescue of sick and injured animals and their treatments	Disinfection and sanitation of all the shed Movement other than the attendant into the farm premises should be restricted Proper disposal of dead animals.	
Cyclone				
Shortage of feed ingredients	NA	NA	NA	NA
Drinking water	NA	NA	NA	NA
Health and disease management	NA	NA	NA	NA
Heat wave and cold wave				
Shelter/environment management	Proper selection of housing site.	Provision of proper ventilation.protection from extreme temperature using covers.Provision of heater	Disinfection of sheds, disposal of dead/inferior birds	

Health and disease management	Stock preventive medicines,vaccines,procurement of feeds & litter materials	Measures to prevent outbreak of diseases,continue feeding and construction of shed	Proper disposal of dead birds	NA

[a] based on forewarning wherever available

2.5.3 Fisheries/ Aquaculture

	Suggested contingency measures		
	Before the event[a]	**During the event**	**After the event**
1) Drought			
A. Capture			
Marine			
Inland			
(i) Shallow water depth due to insufficient rains/inflow	NA	NA	NA
(ii) Changes in water quality	NA	NA	NA
(iii) Any other	NA	NA	NA
B. Aquaculture			
(i) Shallow water in ponds due to insufficient rains/inflow	NA	NA	NA
(ii) Impact of salt load build up in ponds / change in water quality	NA	NA	NA
(iii) Any other	NA	NA	NA
2) Floods			
A. Capture			
Marine			
Inland			
(i) No. of boats / nets/damaged	NA	NA	NA

(ii) No. of houses damaged	NA	NA	NA
(iii) Loss of stock	NA	NA	NA
(iv) Changes in water quality	NA	NA	NA
(v) Health and diseases	NA	NA	NA
B. Aquaculture			
(i) Inundation with flood water	1. NA Storage of sand filled bags for emergency use. 2. Repair and maintenance of bunds 3.Insurance coveage provision for life and property	1. Timely broadcast and telecast and other types of announcement warninf about the danger level with respect to water level. 2. Relief operation	1.Relief operation will continue. 2.Care of health of affected people 3.Settlement of insurance 4.Financial support to other people
(ii) Water contamination and changes in water quality	Take appropriate measures to check seepage into pond e.g. Raising bunds to prevent entry of water	Check the water quality and take appropriate action.	1.Application of lime 2.Application of Alum 3.Application of KMnO4
(iii) Health and diseases	Stock preventive medicines, vaccines	Prevent influx of diseased fish from outside source. Check through nets. Administer medicine through random catch.Disinfect water by lime. KMnO4	1.Application of lime and KMnO4 2.Assessment of health status of fish and accordingly control measure should be taken 3.Control on transport of brooders and seeds.
(iv) Loss of stock and inputs (feed, chemicals etc)	NA	NA	NA
(v) Infrastructure damage (pumps, aerators, huts etc)	NA	NA	NA
(vi) Any other			
3. Cyclone / Tsunami	NA	NA	NA
4. Heat wave and cold wave			
A. Capture	NA	NA	NA
B. Aquaculture			
(i) Changes in pond environment (water quality)	NA	NA	MA

i) Health and Disease management			•
(ii) Any other	NA	NA	NA

[a] based on forewarning wherever available

Rows/columns/cells which are not relevant may be written as Not Applicable